

SOLAR RADIATION AND SUNSPOT DATA FOR OCTOBER 1941

[Solar Radiation Investigations Section, I. F. HAND in charge]

SOLAR RADIATION OBSERVATIONS

By HELEN CULLINANE

Measurements of solar radiant energy received at the surface of the earth are made at 9 stations maintained by the Weather Bureau and at 12 cooperating stations maintained by other institutions. The intensity of the total radiation from sun and sky on a horizontal surface is continuously recorded (from sunrise to sunset) at all these stations by self-registering instruments; pyrheliometric measurements of the intensity of direct solar radiation at normal incidence are made at frequent intervals on clear days at three Weather Bureau stations (Madison, Wis.; Lincoln, Nebr.; and Albuquerque, N. Mex.), and at the Blue Hill Observatory at Harvard University. Occasional observations of sky polarization are taken at the Weather Bureau station at Madison and at Blue Hill Observatory.

The geographic coordinates of the stations, descriptions of the instrumental equipment, station exposures, and methods of observation, together with summaries of the data obtained, up to the end of 1939, are given in the MONTHLY WEATHER REVIEW for December 1937, April 1941, and September 1941.

Table 1 contains the measurements of the intensity of direct solar radiation at normal incidence, with means and their departures from normal (means based on less than 3 values are in parentheses). At Lincoln, Madison, Albuquerque, and Blue Hill the observations are obtained with a recording thermopile, checked by observations with a Smithsonian silver-disk pyrheliometer at Blue Hill. The table also gives vapor pressures at 7:30 a. m. and at 1:30 p. m. (75th meridian time).

Table 2 contains the daily total amounts of radiation received on a horizontal surface from both sun and sky for all stations except Fairbanks, Alaska; and also the weekly means, their departures from normal and the accumulated departures since the beginning of the year. The values at most of the stations are obtained from the Eppley pyrheliometer recording either on a microammeter or a potentiometer. If the daily figures for total solar and sky radiation at Fairbanks should be desired, they may be obtained approximately 2 months after the date of the observation by writing to the Solar Radiation Investigations Supervisory Station, Blue Hill Observatory, Milton, Mass. Table 2 also includes values of ultraviolet radiation below 3132 Angströms at San Juan (see MON. WEATH. REV., Sept. 1941, p. 286).

Radiation at normal incidence was above normal at both Madison and Lincoln.

Total solar and sky radiation received on a horizontal surface during October was below normal at all stations for which normals have been computed with the exception of Washington, New York, New Orleans, and Chicago.

Polarization measurements at Madison in October gave a mean of 73, 10 percent above normal, and a maximum of 74, 4 percent above the normal for that month.

Corrections to data already printed, due to changes in factor upon recalibration, are given for Blue Hill and Riverside.

TABLE 1.—Solar radiation intensities during October 1941

[Gram-calories per minute per square centimeter of normal surface]

**MADISON, WIS.**

Date	Sun's zenith distance										1:30 p. m.		
	8 a. m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°			
	75th mer. time	Air mass										Local mean solar time	
		A. M.					P. M.						
e.	5.0	4.0	3.0	2.0	1.0	2.0	3.0	4.0	5.0	e.			
	mm.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	mm.			
Oct. 2	7.57	0.87	0.93	0.93	1.34	1.52	1.34	-----	-----	-----	10.59		
Oct. 7	9.83	1.13	1.23	1.34	1.52	1.34	-----	-----	-----	6.27			
Oct. 8	6.02	1.00	1.09	1.21	1.39	1.52	1.34	-----	-----	7.29			
Oct. 10	6.02	1.04	1.14	1.28	1.41	1.55	1.34	-----	-----	4.95			
Oct. 16	4.75	.59	.72	1.02	1.32	-----	-----	-----	-----	4.37			
Oct. 17	4.75	.71	.80	1.01	-----	-----	-----	-----	-----	7.04			
Oct. 23	6.02	-----	-----	1.24	1.40	1.56	1.38	-----	-----	5.36			
Oct. 25	4.57	-----	-----	-----	1.16	-----	-----	-----	-----	5.36			
Oct. 28	2.62	-----	-----	1.22	1.38	-----	1.30	-----	-----	2.62			
Means	-----	.84	.96	1.14	1.34	1.54	1.32	-----	-----	-----			
Departures	-----	+.05	+.04	+.09	+.13	+.09	+.11	-----	-----	-----			

**LINCOLN, NEBR.**

Oct. 1	7.87	-----	-----	-----	-----	-----	-----	0.94	0.82	10.97
Oct. 7	6.50	-----	1.07	1.21	1.34	-----	1.31	1.16	.99	6.02
Oct. 9	9.16	-----	-----	-----	-----	-----	1.32	1.18	1.06	6.76
Oct. 10	5.34	0.79	.94	1.11	1.29	-----	1.31	1.15	1.12	.90
Oct. 27	3.99	-----	-----	-----	1.43	-----	1.40	1.21	1.10	.99
Means	-----	(.79)	(1.00)	(1.16)	1.35	-----	1.34	1.18	1.04	.89
Departures	-----	-.04	+.07	+.07	+.07	-----	+.09	+.10	+.10	+.06

**ALBUQUERQUE, N. MEX.**

Oct. 1	7.29	-----	-----	-----	1.33	1.55	1.35	1.21	1.06	0.97	8.18
Oct. 2	9.83	0.93	1.02	1.14	1.26	-----	-----	-----	-----	-----	10.20
Oct. 4	6.27	-----	-----	-----	-----	1.32	1.32	-----	-----	.92	5.26
Oct. 5	6.50	.99	1.11	1.21	1.37	1.60	1.39	1.21	1.10	.99	5.56
Oct. 6	6.76	.89	1.01	1.10	1.29	1.50	1.35	1.17	1.01	.89	5.56
Oct. 7	4.36	.95	1.06	1.18	1.34	1.58	1.35	1.17	1.07	.98	5.15
Oct. 8	5.56	1.06	1.18	1.27	1.40	1.60	1.39	1.21	1.11	1.01	6.02
Oct. 9	4.68	1.01	1.13	1.23	1.38	1.59	1.34	1.19	1.12	.99	4.75
Oct. 10	6.76	.88	1.01	1.12	1.29	1.47	1.29	1.18	1.04	.89	6.50
Oct. 11	8.49	.84	.96	1.07	1.22	1.52	1.27	1.12	.99	.86	9.14
Oct. 14	7.57	-----	-----	-----	1.34	-----	1.34	1.13	1.03	.92	7.04
Oct. 15	6.02	.94	1.05	1.12	1.34	-----	1.32	1.15	1.07	-----	5.79
Oct. 16	6.02	.90	1.02	1.15	1.32	1.58	1.35	1.20	1.10	.99	6.50
Oct. 17	6.02	.94	1.07	1.18	1.34	1.61	1.35	1.22	1.14	1.01	6.50
Oct. 19	6.27	-----	1.05	1.15	1.29	1.61	-----	-----	-----	-----	6.78
Oct. 20	6.27	.97	1.10	1.18	1.35	1.61	-----	1.15	1.01	.91	5.36
Oct. 22	6.76	-----	-----	1.21	1.34	-----	-----	1.21	-----	-----	7.57
Oct. 23	7.04	-----	-----	1.21	1.33	-----	-----	1.34	1.16	1.05	7.87
Oct. 26	5.15	-----	-----	1.21	1.37	-----	-----	-----	-----	-----	4.75
Oct. 27	5.79	.94	1.06	1.18	1.34	1.57	-----	-----	-----	-----	5.36
Oct. 31	4.75	-----	-----	-----	-----	-----	1.38	1.25	1.14	1.06	3.96
Means	-----	.94	1.06	1.17	1.33	1.57	1.34	1.18	1.07	.96	-----

**LATE DATA—LINCOLN, NEBR.**

July 10	13.13	-----	-----	-----	-----	-----	1.11	0.94	0.84	0.75	14.61
July 11	14.10	-----	-----	-----	-----	-----	1.14	.94	.85	.75	10.59
July 28	16.79	-----	-----	-----	-----	-----	-----	-----	.61	.89	19.89
July 31	15.65	-----	-----	-----	-----	-----	-----	.86	.73	.62	15.65
Means	-----	-----	-----	-----	-----	-----	1.12	.91	.81	.68	-----
Departures	-----	-----	-----	-----	-----	-----	+.05	+.02	+.05	+.01	-----

<sup>1</sup> Extrapolated.

TABLE 2.—Daily totals and weekly means of solar radiation (direct + diffuse) received on a horizontal surface  
[Gram-calories per square centimeter]

Date	Wash- ington	Madi- son	Lin- coln	New York	Fresno	Albu- querque	Fair- banks	New- port	Ithaca	Cam- bridge	Twin Falls	Friday Harbor	River- side	New Orleans	La Jolla	State College	Blue Hill	Chi- cago	San Juan	San Juan	ultra violet mg. cal.
Oct. 1.....	343	400	451	209	451	528	262	262	242	242	237	484	242	472	248	280	280	379	370	370	166
Oct. 2.....	299	150	138	325	433	398	404	368	344	344	106	473	146	408	163	379	78	502	199	502	199
Oct. 3.....	212	117	233	34	461	142	46	87	43	43	125	479	439	459	118	54	140	373	292	373	292
Oct. 4.....	413	124	75	300	446	490	317	270	342	373	462	404	469	288	321	94	601	248	601	248	248
Oct. 5.....	423	357	105	361	466	512	300	267	226	226	337	342	487	297	267	267	441	544	262	544	262
Oct. 6.....	383	175	218	406	467	384	398	338	320	320	260	457	389	464	392	326	77	471	340	471	340
Oct. 7.....	384	418	438	72	458	500	142	262	81	81	178	452	500	379	358	91	430	519	354	519	354
Mean.....	351	249	237	244	454	422	267	265	228	228	238	450	373	421	261	246	235	496	267	496	267
Departure.....	+21	-30	-95	-36	+31	-----	-10	-4	-42	-----	-16	+71	+12	-----	-----	-57	-29	-----	-----	-----	-----
Oct. 8.....	439	404	268	415	448	501	413	93	397	397	115	334	508	398	416	401	369	476	374	476	374
Oct. 9.....	427	48	421	365	440	489	427	300	354	354	55	446	475	461	331	395	44	471	337	471	337
Oct. 10.....	179	409	418	78	431	468	31	206	38	38	185	433	430	444	247	34	392	565	362	565	362
Oct. 11.....	420	330	399	440	368	457	401	294	256	256	105	441	519	427	226	336	400	399	231	399	231
Oct. 12.....	408	381	368	238	358	408	300	190	293	293	277	218	502	156	358	298	358	479	358	479	358
Oct. 13.....	410	39	120	349	435	381	384	396	367	367	108	433	510	433	352	385	174	270	125	270	125
Oct. 14.....	372	289	237	188	428	461	171	52	125	125	222	456	454	447	157	125	198	280	134	280	134
Mean.....	379	271	319	296	415	452	304	219	261	261	152	394	485	395	298	282	276	433	278	433	278
Departure.....	+68	+23	+18	+27	+14	-----	-17	-31	+2	-----	-70	+24	+117	-7	-----	-35	+43	-----	-----	-----	-----
Oct. 15.....	170	324	298	85	377	360	218	345	301	301	101	444	420	445	102	296	226	397	225	397	225
Oct. 16.....	449	353	366	404	376	-----	381	317	329	329	96	397	322	404	415	275	342	416	358	416	358
Oct. 17.....	347	153	123	317	396	-----	396	384	364	364	264	320	167	317	256	389	129	368	321	368	321
Oct. 18.....	127	60	358	110	368	-----	109	52	124	124	55	356	348	400	96	131	82	462	351	462	351
Oct. 19.....	282	147	188	269	118	-----	331	229	334	334	234	97	471	243	160	410	192	401	342	401	342
Oct. 20.....	154	109	151	273	66	-----	374	326	331	331	237	194	483	296	207	361	234	439	382	439	382
Oct. 21.....	305	241	194	175	82	-----	274	144	222	222	212	192	457	104	135	239	263	440	372	440	372
Mean.....	262	198	241	233	255	-----	297	258	286	286	172	286	581	316	196	300	210	425	339	425	339
Departure.....	-23	-25	-51	+6	-104	-----	-4	+3	+23	-----	-11	-52	+219	-58	-----	+7	0	-----	-----	-----	-----
Oct. 22.....	368	82	84	347	389	-----	361	262	327	327	130	48	452	120	324	359	126	455	363	455	363
Oct. 23.....	185	337	265	95	332	-----	147	40	100	100	239	98	423	40	125	100	365	374	232	374	232
Oct. 24.....	344	323	194	342	162	286	361	143	327	327	262	302	375	384	313	348	294	284	304	284	304
Oct. 25.....	334	299	127	304	319	329	344	80	197	197	24	373	403	388	285	274	246	410	237	410	237
Oct. 26.....	343	51	143	269	203	366	352	263	320	320	221	158	367	272	314	340	86	329	180	329	180
Oct. 27.....	76	221	372	127	282	391	219	44	179	179	106	197	188	280	73	184	26	193	66	193	66
Oct. 28.....	300	311	311	242	354	136	81	52	90	90	190	370	447	357	200	89	207	117	35	117	35
Mean.....	279	232	214	246	291	302	286	126	220	220	168	221	379	263	234	242	193	360	236	360	236
Departure.....	+17	+25	-60	+48	-57	-----	+20	-28	-9	-----	+14	-105	+48	-59	-----	+15	+12	-----	-----	-----	-----

ACCUMULATED DEPARTURE ON OCTOBER 28, 1941

+5,586	+3,500	-7,399	+18,046	-2,058	-----	-161	-----	-63	-----	-631	+14,574	-4,270	-----	-1,224	+15,512	-----	-----	-----	-----	-----	-----
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LATE DATA AND CORRECTIONS TO TABLE 2

Week beginning--	Blue Hill		Riverside		Twin Falls		State College
	Total	Departure	Total	Departure	Total	Departure	Total
Jan. 1.....	121	-21	185	-59	cal.	cal.	cal.
Jan. 8.....	161	+7	186	-54	-----	-----	-----
Jan. 15.....	119	-44	253	-41	-----	-----	-----
Jan. 22.....	144	-20	183	-76	-----	-----	-----
Jan. 29.....	187	-28	307	+76	-----	-----	101
Feb. 5.....	273	+39	214	-57	-----	-----	168
Feb. 12.....	198	-35	216	-78	-----	-----	174
Feb. 19.....	299	-33	245	-70	-----	-----	251
Feb. 26.....	225	-76	231	-125	-----	-----	237
Mar. 5.....	266	-28	423	+14	-----	-----	258
Mar. 12.....	353	+40	305	-93	-----	-----	324
Mar. 19.....	380	-13	457	+88	-----	-----	376
Mar. 26.....	438	+51	390	+20	-----	-----	351
Apr. 2.....	390	+11	487	-18	-----	-----	440
Apr. 9.....	476	+118	291	-156	-----	-----	516
Apr. 16.....	521	+130	593	+71	-----	-----	501
Apr. 23.....	375	-59	455	+13	-----	-----	562
Apr. 30.....	409	-60	389	-127	502	-23	578
May 7.....	430	-67	593	+54	502	-82	456
May 14.....	651	+120	666	+58	-----	-----	519
May 21.....	460	-19	573	+38	572	-22	581
May 28.....	469	-81	546	+10	535	-17	390
June 4.....	558	-13	484	-41	492	-88	599
June 11.....	367	-120	580	+6	570	-45	324
June 18.....	575	+13	658	+66	662	-13	630
June 25.....	691	+94	589	+15	580	-52	623

LATE DATA AND CORRECTIONS TO TABLE 2—Con.

Date	Twin Falls	Ithaca	Friday Harbor	Date	Twin Falls	Ithaca	Friday Harbor
July 2.....	cal. 710	cal.	cal.	July 23.....	cal. 417	cal.	cal.
July 3.....	487	-----	-----	July 24.....	278	-----	-----
July 4.....	709	-----	-----	July 25.....	631	-----	-----
July 5.....	732	-----	-----	July 26.....	317	-----	-----
July 6.....	636	-----	-----	July 27.....	484	-----	-----
July 7.....	504	-----	-----	July 28.....	631	-----	-----
July 8.....	720	-----	-----	July 29.....	698	-----	-----
Mean.....	642	-----	-----	Mean.....	494	-----	-----
Departure.....	+41	-----	-----	Departure.....	-74	-----	-----
July 9.....	749	-----	-----	July 30.....	621	249	-----
July 10.....	730	-----	-----	July 31.....	534	222	-----
July 11.....	566	-----	-----	Aug. 1.....	642	488	-----
July 12.....	723	-----	-----	Aug. 2.....	648	692	-----
July 13.....	728	-----	-----	Aug. 3.....	680	687	-----
July 14.....	666	-----	-----	Aug. 4.....	665	541	-----
July 15.....	545	-----	-----	Aug. 5.....	643	635	-----
Mean.....	672	-----	-----	Mean.....	633	502	-----
Departure.....	+61	-----	-----	Departure.....	+71	+26	-----
July 16.....	562	-----	-----	Aug. 6.....	664	639	-----
July 17.....	718	-----	-----	Aug. 7.....	500	665	-----
July 18.....	427	-----	-----	Aug. 8.....	312	658	-----
July 19.....	509	-----	-----	Aug. 9.....	506	383	-----
July 20.....	706	-----	-----	Aug. 10.....	518	691	-----
July 21.....	692	-----	-----	Aug. 11.....	303	434	-----
July 22.....	681	-----	-----	Aug. 12.....	305	354	-----
Mean.....	613	-----	-----	Mean.....	442	546	-----

LATE DATA AND CORRECTIONS TO TABLE 2—Con.

POSITIONS, AREAS, AND COUNTS OF SUN SPOTS FOR OCTOBER 1941—Continued

Date	Twin Falls	Ithaca	Friday Harbor	Date	Twin Falls	Ithaca	Friday Harbor
Aug. 13.....	cal. 663	cal. 590	cal.	Sept. 8.....	cal. 589	cal. 548	cal. 256
Aug. 14.....	648	503		Sept. 9.....	513	450	212
Aug. 15.....	395	127		Mean.....	534	476	332
Aug. 16.....	624	327		Departure.....	+29	+77	-82
Aug. 17.....	325	622		Sept. 10.....	507	409	286
Aug. 18.....	626	542		Sept. 11.....	315	330	378
Aug. 19.....	622	364		Sept. 12.....	490	525	
Mean.....	558	439		Sept. 13.....	537	521	
Departure.....	+45	-5		Sept. 14.....	307	525	
Aug. 20.....	575	649		Sept. 15.....	451	499	
Aug. 21.....	588	560		Sept. 16.....	523	452	
Aug. 22.....	613	433		Mean.....	447	466	
Aug. 23.....	524	562		Departure.....	-27	+145	
Aug. 24.....	568	549		Sept. 17.....	512	417	
Aug. 25.....	397	225		Sept. 18.....	481	447	395
Aug. 26.....	510	344		Sept. 19.....	278	521	215
Mean.....	539	475		Sept. 20.....	516	500	321
Departure.....	+15	+28		Sept. 21.....	476	501	320
Aug. 27.....	604	549		Sept. 22.....	161	490	
Aug. 28.....	580	620		Sept. 23.....	187	363	
Aug. 29.....	596	523		Mean.....	373	462	313
Aug. 30.....	585	493		Departure.....	-59	+120	-11
Aug. 31.....	543	288		Sept. 24.....	503	448	
Sept. 1.....	526	527	93	Sept. 25.....	436	327	
Sept. 2.....	223	573		Sept. 26.....	424	262	251
Mean.....	522	510		Sept. 27.....	502	463	368
Departure.....	+36	-26		Sept. 28.....	494	369	94
Sept. 3.....	464	521		Sept. 29.....	439	291	252
Sept. 4.....	589	287		Sept. 30.....	455	184	261
Sept. 5.....	584	412	476	Mean.....	465	335	245
Sept. 6.....	493	547	469	Departure.....	+22	+35	-57
Sept. 7.....	509	563	487				

POSITIONS, AREAS, AND COUNTS OF SUN SPOTS FOR OCTOBER 1941

[Communicated by Capt. J. F. Hellweg, U. S. Navy (Ret.), Superintendent, U. S. Naval Observatory.] All measurements and spot counts were made at the Naval Observatory from plates taken at the observatories indicated. Difference in longitude is measured from the central meridian, positive toward the west. Latitude is positive toward the north. Areas are corrected for foreshortening and expressed in millionths of sun's hemisphere. For each day, under longitude, latitude, area of spot or group, and spot count, are included assumed longitude of center of the disk, assumed latitude of center of the disk, total area of spots and groups, and total spot count.

Date	East-ern stand-ard time	Mount Wilson group No.	Hellographic				Area of spot or group	Spot count	Plate quality	Observatory
			Dif-ference in longi-tude	Lon-gi-tude	Lat-i-tude	Dis-tance from cen-ter of disk				
1941										
Oct. 1....	h m		°	°	°	°				
	11 12	7299	-26	349	-4	28	73	9	VG	U. S. Naval.
		7299	-21	354	-7	26	48	10		
		7298	-10	5	-5	16	48	6		
		7297	-7	8	+1	9	533	6		
				(15)	(+7)		702	29		
Oct. 2....	11 4	7299	-7	355	-7	17	48	10	G	Do.
		7299	-12	350	-6	19	24	5		
		7298	+3	5	-5	13	48	11		
		7297	+7	9	+1	9	509	5		
		7300	+18	20	-9	20	24	2		
				(2)	(+7)		653	33		
Oct. 3....	13 40	7299	+6	353	-7	16	36	7	G	Do.
		7298	+17	4	-5	20	6	2		
		7301	+21	8	-5	25	6	2		
		7297	+21	8	+1	23	509	5		
				(347)	(+7)		557	16		
Oct. 4....	10 34	7301	+34	10	-4	35	109	11	G	Do.
		7297	+34	10	+1	34	461	2		
		7300	+44	20	-9	45	12	4		
				(336)	(+7)		582	17		

See footnotes at end of table.

Date	East-ern stand-ard time	Mount Wilson group No.	Hellographic				Area of spot or group	Spot count	Plate quality	Observatory
			Dif-ference in longi-tude	Lon-gi-tude	Lat-i-tude	Dis-tance from cen-ter of disk				
1941										
Oct. 6....	h m		°	°	°	°				
	13 3	7302	-88	220	+12	88	388	1	VG	U. S. Naval.
		(*)	+43	351	-5	44	24	8		
		7301	+59	7	-3	60	73	7		
		7297	+62	10	+1	63	461	5		
		7301	+67	15	-2	68	194	1		
				(308)	(+6)		1,140	22		
Oct. 7....	11 34	7302	-74	222	+12	74	496	7	VG	Do.
		(*)	-9	287	+10	10	24	5		
		7303	+9	305	+15	13	121	15		
		7297	+76	12	+1	76	358	2		
		7301	+79	15	-3	79	145	1		
				(296)	(+6)		1,114	30		
Oct. 8....	11 55	7302	-79	203	+12	79	194	1	VG	Do.
		7302	-65	217	+13	65	48	16		
		7302	-59	223	+11	59	339	2		
		7303	+23	305	+15	25	121	15		
				(282)	(+6)		702	34		
Oct. 9....	11 12	7302	-68	201	+12	68	291	3	VG	Do.
		7302	-50	219	+13	51	121	15		
		7302	-47	222	+11	47	315	1		
		7302	-41	228	+10	41	24	2		
		7303	+36	305	+15	36	121	3		
				(269)	(+6)		872	24		
Oct. 10...	12 41	7302	-54	202	+12	54	242	1	F	Do.
		7302	-37	219	+13	38	97	11		
		7302	-33	223	+11	33	291	2		
		7303	+51	307	+15	52	73	1		
				(256)	(+6)		703	15		
Oct. 11....	11 25	7302	-41	202	+12	41	242	1	G	Do.
		7302	-23	220	+13	24	73	8		
		7302	-19	224	+11	20	267	2		
		7304	-15	228	+10	15	121	13		
		7303	+66	309	+16	66	73	4		
				(243)	(+6)		776	28		
Oct. 12....	11 31	7305	-80	150	-14	80	48	1	G	Do.
		7302	-29	201	+12	30	73	11		
		7302	-10	220	+13	13	24	3		
		7302	-5	225	+11	7	194	1		
		7304	-1	229	+10	4	121	12		
				(230)	(+6)		460	28		
Oct. 13....	11 17	7305	-66	151	-15	67	48	1	G	Do.
		7302	-15	202	+12	16	242	3		
		7302	+5	222	+13	9	48	10		
		7302	+9	226	+11	11	194	1		
		7304	+14	231	+10	14	48	7		
				(217)	(+6)		580	22		
Oct. 14....	12 24	7305	-58	145	-14	60	48	3	G	Do.
		7305	-51	152	-15	54	24	1		
		7302	-1	202	+13	8	242	8		
		7302	+23	226	+11	23	145	1		
		7304	+28	231	+9	28	97	9		
				(203)	(+6)		556	22		
Oct. 15....	11 25	7305	-45	145	-13	47	145	8	F	Do.
		7305	-39	151	-13	43	24	1		
		7306	-29	161	-8	33	12	2		
		7302	+11	201	+12	12	194	6		
		7302	+38	228	+11	38	121	1		
		7304	+41	231	+10	41	73	9		
				(190)	(+6)		569	27		
Oct. 16....	11 48	7308	-63	114	+19	64	24	2	F	Do.
		7305	-32	145	-13	37	242	15		
		7307	-18	159	-1	20	48	10		
		7302	+26	203	+12	27	194	4		
		7302	+50	227	+12	50	73	3		
		7304	+53	230	+10	63	12	2		
				(177)	(+6)		593	36		

See footnotes at end of table.